

TRI-MODE OVER-VOLTAGE PROTECTION AND DISCONNECT CIRCUIT

APPARATUS AND METHOD

ABSTRACT OF THE DISCLOSURE

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A single-phase apparatus and method for protecting for all AC power wires/lines and combinations thereof. The present invention prevents (1) the hazardous condition occurring at the wall receptacle, arising from accidental reversal of the line wire with the neutral wire, from adversely affecting at least one peripheral device in the line, and (2) the overheating and destruction of components in an over-voltage protection circuit by providing an efficient circuit configuration which assures a rapid simultaneous disconnect of both the hot line and neutral power lines. The present invention achieves this by opening the circuit to simultaneously disconnect both line and neutral power lines feeding a load when the over-voltage event occurs in any of three wire pairings: line-to-neutral, line-to-ground, or neutral-to-ground.